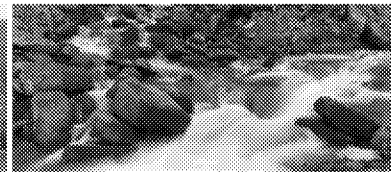


pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Safe Drinking Water



Overview of PA's Proposed PFAS MCL Rule

Spring 2022

Tom Wolf, Governor

Patrick McDonnell, Secretary

BSDW Actions to Address PFAS

Since 2016, the BSDW has ensured that follow-up and corrective actions are taken at public water systems with PFOS/PFOA levels above EPA's HAL of 70 ppt, including:

- One-hour reporting of sample results to DEP (§ 109.701(a)(3)(iii))
- Collection of confirmation samples (§ 109.302)
- Issuance of Tier 2 Public Notice (§ 109.409)
- Quarterly monitoring at the entry point (§ 109.302)
- If levels continue to exceed the HAL, additional actions may be needed including taking sources off-line, installing treatment, etc. (§ 109.4)

State Actions to Address PFAS

The Wolf Administration has made it top priority to address PFAS contamination and worked to improve safety for residents and visitors by:

- Signing an Executive Order on Sept. 19, 2018, to establish a PFAS Action Team to develop a comprehensive response to identify and eliminate sources of contamination, ensure drinking water is safe, manage environmental contamination, review gaps in data and oversight authority, and recommend actions to address those gaps
- Taking the unprecedented step of setting an MCL for drinking water

Due to these efforts, Pennsylvania is at the forefront of states taking proactive steps to address PFAS. More information on Pennsylvania's efforts to address PFAS can be found at this webpage:

www.dep.pa.gov/PFAS .

Proposed PFAS MCL Rule

DEP's Proposed PFAS MCL Rule:

- Approved by the EQB in Nov 2021 to move forward as a proposed rulemaking
- Published in the *PA Bulletin* on Feb 26, 2022, for a 60-day public comment period (to end on Apr 27, 2022)
- Five virtual hearings were held the week of Mar 21st
- Comments may be submitted online (via eComment), by email (via RegComments@pa.gov), by mail or express mail

Proposed PFAS MCL Rule

Summary of provisions:

- Applies to all CWSs (1,905), NTNCWSs (1,096) and BVRBs (116) for total of 3,117 PWSs
- Rule is intended to:
 - Set MCLs and MCLGs for PFOA and PFOS
 - Establish monitoring requirements using EPA's Standardized Monitoring Framework
 - Establish sampling and analytical requirements and acceptable treatment technologies
 - Provide for increased protection of public health through implementation of the MCLs and other provisions including public notification

MCL Rulemaking Process

The Proposed PFAS MCL Rule is based on available data, studies, and science, and considers all factors as required by the Federal Safe Drinking Water Act (SDWA) and Pennsylvania's Regulatory Review Act (RRA), including:

- Health effects
- Occurrence data
- Technical limitations such as available analytical methods and detection and reporting limits
- Treatability of the contaminant and available treatment technologies
- Costs and benefits

Toxicology Report

In December 2019, the BSDW executed a toxicology services contract with Drexel University to review other state and federal agency work on MCLs; independently review the data, science and studies; and develop recommended MCLGs for select PFAS.

- MCLGs are non-enforceable, developed solely based on health effects, and do not take into consideration other factors, such as technical limitations and cost. MCLGs are the starting point for determining MCLs.

Deliverables were completed in January 2021 and include the “Drexel PFAS Workbook” and “MCLG Drinking Water Recommendations for PFAS in the Commonwealth of PA”.

Toxicology Report

DPAG Reference Dose and Recommended Chronic Non-Cancer MCLGs

PFAS	Reference Dose (ng/kg/day)	MCLG (ng/L or ppt)
PFOA	3.9	8
PFOS	3.1	14

The PFOA MCLG is intended to be protective of developmental effects (including neurobehavioral and skeletal effects).

The PFOS MCLG is intended to be protective of immunotoxicity effects (including immune suppression).

PFAS Sampling Plan

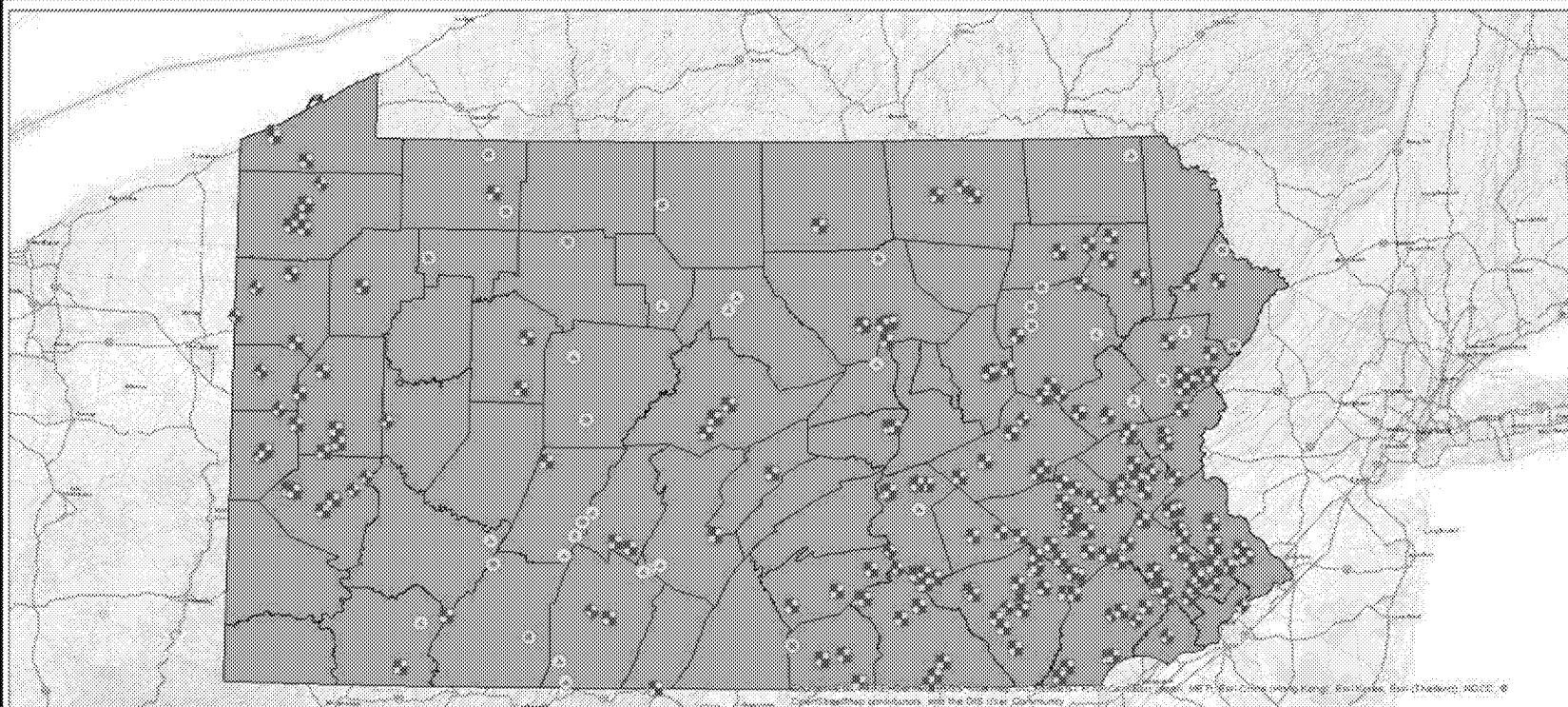
BSDW completed a statewide PFAS Sampling Plan to identify impacted PWSs and generate statewide occurrence data.

Several factors were considered in developing the plan, including:

- Location of potential sources of PFAS contamination (PSOC) (e.g. military facilities, fire training/sites, landfills, cleanup sites, manufacturing facilities)
- PWS sources located within $\frac{1}{2}$ to $\frac{3}{4}$ of mile of PSOCs
- Selection of PWS sources to serve as a control group

PFAS Sampling Plan

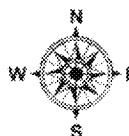
Drinking Water Sources Selected for Sampling



LEGEND

- BASELINE WELLS_032019
- TARGET WELLS_032019
- BASELINE INTAKES_032019
- ◆ TARGET INTAKES_032019

Revised: 28 March 2019



25 12.5 0 25 50 75 100
Miles



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➤ Sampling Plan – Summary of Results

	PFOA	PFOS	PFNA	PFHxS	PFHpA	PFBS	Units
Total # Samples	412	412	412	412	412	412	--
Average	2.0	2.5	0.4	1.4	0.7	1.1	ng/l
Median	0 (ND)	0 (ND)	0 (ND)	0 (ND)	0 (ND)	0 (ND)	ng/l
Minimum	0 (ND)	0 (ND)	0 (ND)	0 (ND)	0 (ND)	0 (ND)	ng/l
Maximum	59.6	187.1	18.1	140.0	32.6	64.0	ng/l
# and % of Detects	112 (27%)	103 (25%)	23 (6%)	52 (13%)	49 (12%)	66 (16%)	--
Avg Detect Value	7.5	9.9	7.2	10.9	6.1	7.0	ng/l
Med Detect Value	5.3	6.5	5.6	4.5	4.5	4.2	ng/l
Min Detect Value	1.7	1.8	1.8	1.9	1.8	1.7	ng/l
Max Detect Value	59.6	187.1	18.1	140.0	32.6	64.0	ng/l

Full results available at www.dep.pa.gov/pfas

Proposed PFOA MCLG & MCL

Proposed PFOA MCL of 14 ppt:

- # of sites (of 435) > 14 ppt = 25 (or 5.7%)
- Estimated # of EPs (of 3785) > 14 ppt = **218**
- Estimated costs:
 - Total annual compliance monitoring costs (@ \$616/EP/Q) = **\$2.89 M**
 - Total treatment costs (to treat 1 MGD) annualized over 20 years per EP (includes annual O&M and capital costs):
 - Treatment O&M costs = **\$40.54 M**
 - Treatment capital costs = **\$54.07 M**
 - Total costs = **\$97.51 M**
 - Percent (%) increase in cost compared to HAL = **253%**
- Estimated benefits:
 - **90%** improvement in health protection as compared to current EPA HAL of 70 ppt

	PFOA (ng/L or ppt)
Proposed MCLG	8
Proposed MCL	14

Proposed PFOS MCLG & MCL

Proposed PFOS MCL of 18 ppt:

- # of sites (of 435) > 18 ppt = 22 (or 5.1%)
- Estimated # of EPs (of 3785) > 18 ppt = **191**
- Estimated costs:
 - Total annual compliance monitoring costs (@ \$616/EP/Q) = **\$2.70 M**
 - Total treatment costs (to treat 1 MGD) over 20 years per EP (includes annual O&M and capital costs):
 - Treatment O&M costs = **\$35.53 M**
 - Treatment capital costs = **\$47.37 M**
 - Total costs = **\$85.60 M**
 - Percent (%) increase in cost compared to HAL = **94%**
- Estimated benefits:
 - **93% improvement** in health protection as compared to current EPA HAL of 70 ppt

	PFOS (ng/L or ppt)
Proposed MCLG	14
Proposed MCL	18

Proposed PFAS MCLs

The Proposed PFOA and PFOS MCLs:

- Are technically feasible
- Increase public health protection by 90% for PFOA and 93% for PFOS
- Strike an appropriate balance when compared to the benefits and costs associated with meeting the HAL of 70 ppt
- Are within the range and same magnitude as other state standards

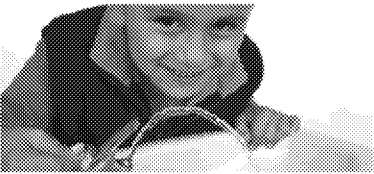
	NY	MI	NJ	NH	PA	MA	VT
PFOA	10	8	14	12	14	20*	20*
PFOS	10	16	13	15	18	20*	20*

*The MCL for MA & VT is for a PFAS group (not individual contaminants).

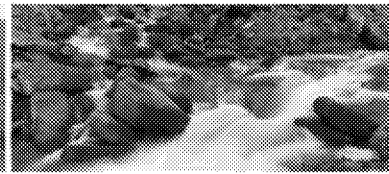
Proposed PFAS MCL Rule

Tentative schedule:

- DEP anticipates discussing the draft final rule with TAC this summer
- DEP expects to submit the final rule to the EQB for consideration this fall
- If approved, DEP expects the final rule to be published in the *PA Bulletin* during the winter of 2022/2023. The rule would be effective upon publication.
- Link for more info: https://www.dep.pa.gov/Citizens/My-Water/drinking_water/PFAS/Pages/default.aspx



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